

Appl. No.: 09/727,032
Amdt. dated April 2, 2004
Reply to Office action of January 21, 2004

REMARKS / ARGUMENTS

Applicant respectfully acknowledges receipt of the Office action mailed January 21, 2004, and the Office action dated March 2, 2004 that withdrew the finality of the January 21, 2004 Office action. In the January 21, 2004 Office action, the Examiner: (1) rejected claims 1, 5-6, 8-15, and 17-19 under 35 USC § 103 based on US Patent No. 5,448,701 to *Metz* and US Patent No. 6,202,080 to *Lu et al*; and (2) rejected claims 7 and 20 under 35 USC § 103 based on *Metz*, *Lu*, and US Patent No. 5,692,149 to *Lee*. Applicant respectfully requests reconsideration for the reasons that follow.

I. REJECTION UNDER 35 USC § 103

The Examiner rejected claims 1, 5-6, 8-15, and 17-19 based on US Patent No. 5,448,701 to *Metz* and US Patent No. 6,202,080 to *Lu et al*. Applicant respectfully requests reconsideration.

The *Metz* patent was discussed at length in the Response to First Office Action filed by Applicant. See pages 11-12 of the Response to First Office Action. That discussion will not be repeated here except to note that both the Examiner and Applicant agree that *Metz* does not teach or disclose a system in which the devices requesting access to a bus indicate the number of operations awaiting execution, and granting bus access based on the number of pending requests. See also page 3 of the January 21, 2004 Office action. According to the Examiner, *Lu* solves this shortcoming because it discloses that "it is known to monitor and to compare the number of the pending operations in each queue (node) in workload balancing (figure 5, step 704)." *Id*.

Each of independent claims 1 and 11 requires a bus arbiter that resolves conflicting requests from bus devices based on the number of operations pending in the queues of the requesting devices. Claim 18 recites determining if more than one bus device has requested access to the computer bus, and granting access to the bus device that has the greatest workload. These features are nowhere taught or suggested by the network system of *Metz*. Thus, the first issue is whether any other analogous reference teaches this feature, and if so, whether there is a suggestion or motivation in the prior art to combine this feature

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with the network described in *Metz*. The Examiner contends that *Lu* does disclose such a feature, and further contends that it would have been obvious to combine this alleged teaching in *Lu* with the network of *Metz*. Applicant respectfully disagrees that the *Lu* patent is analogous; that the *Lu* patent discloses identifying the number of operations awaiting execution on a bus; or that a combination of the teachings of the *Metz* patent and the *Lu* patent would result in the claimed inventions. For any and all of these reasons, Applicant respectfully submits that the claims of the application are in condition for allowance.

Lu neither teaches nor discloses any feature of bus arbitration or controlling bus access among multiple bus devices. The *Lu* patent relates to job workload distribution on a network utilizing a network file system. Col. 1, lines 23-24. The *Lu* patent teaches that in a multi-computer network, a computer having fewer jobs or tasks than average should take jobs from a computer having more than average jobs. More specifically, the *Lu* patent teaches a computer network embodied by a node cluster 100. 3:50-51. The node cluster has a plurality of nodes, each of which is preferably a powerful, stand-alone computer workstation having considerable calculating and/or graphics capability for executing computer jobs. 4:8-12. The nodes are in communication through a LAN backbone 300. 4:45-47. Figure 5 of *Lu* shows a flow chart for job balance. Upon finding a job to distribute, in step 704 the job balance object 700 selects the remote node with the least amount of pending jobs. In step 706, the job balance object 700 copies a Job Request File 220 from an overloaded node to the selected remote node. 7:23-47. *Lu* is focused on workload redistribution, not bus arbitration.

Despite the absence of any relevance to bus arbitration, the Examiner contends that it would be obvious to take the teachings of *Lu*, which are directed to distributing jobs amongst powerful computer workstations, and apply those teachings to the computer network of *Metz*. As noted, *Metz* discloses a computer network system in which certain computers on the network are given priority on the network if the requesting computer system has an excessive number of operations awaiting transmission on the network, and if the pending operations

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are to a computer system that is capable of receiving that operation. The Examiner fails to show any motivation or suggestion from either *Metz* or *Lu* to take the teachings of *Lu* (applicable to resource allocation in a computer network), and to apply those teachings to the network of *Metz*. Given the absence of such a motivation, and because of the non-analogous nature of the teachings of *Lu*, Applicant respectfully submits that this rejection is improper, and one motivated by Applicant's disclosure, and not the prior art.

Lastly, even if combined, the two references simply do not meet the limitations of the present claims since neither reference suggests or teaches that a device requesting bus access identify the number of operations awaiting execution on the bus. The nodes of *Lu* 110, 120, 130 are not making conflicting access requests for backbone 300, resolved by a "bus arbiter." Thus, the combination of *Lu* to the teachings of *Metz* does not solve the failure of *Metz* to teach devices requesting access to a bus to indicate the number of operations awaiting execution, and granting bus access based on the number of pending requests.

For at least these reasons, and the reasons articulated in prior Responses, Applicant respectfully submits that all pending claims are in condition for allowance.

II. CONCLUSION

Applicant respectfully requests reconsideration and allowance of the pending claims. If the Examiner feels that a telephone conference would expedite the resolution of this case, he is respectfully requested to contact the undersigned.

In the course of the foregoing discussions, Applicant may have at times referred to claim limitations in shorthand fashion, or may have focused on a particular claim element. This discussion should not be interpreted to mean that the other limitations can be ignored or dismissed. The claims must be viewed as a whole, and each limitation of the claims must be considered when determining the patentability of the claims. Moreover, it should be understood that there may

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be other distinctions between the claims and the prior art which have yet to be raised, but which may be raised in the future.

Applicant respectfully requests that a timely Notice of Allowance be issued in this case. If any fees or time extensions are inadvertently omitted or if any fees have been overpaid, please appropriately charge or credit those fees to Hewlett-Packard Company Deposit Account Number 08-2025 and enter any time extension(s) necessary to prevent this case from being abandoned.

Respectfully submitted,



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